Arc Welding

82. <u>Anvil</u> **Section: 3** Sizes range in weight from 20 to 200 lbs. Used to shape cold and hot metal.	
528. <u>Arc Welder Power Supply</u> **Section: 15** Converts AC power to welding current. SMAW and GTAW processes use constant current power supplies and GMAW processes use constant voltage power supplies.	
53. <u>C Clamp</u> **Section: 2** The screw has a sliding bar or a thumb screw at one end, and a ball and socket pad at the other end. Sizes range from 2 to 12 inches.	
55. <u>C Clamp Locking Pliers</u> **Section: 2** Used for clamping irregular shapes quickly and firmly when welding or fastening.	
97. <u>Carpenter's Level</u> **Section: 3** Used for marking level lines and for checking surfaces for level and plumb. Typical length is 24 to 48 inches. Longer levels are often called masonry levels since they are commonly used to lay brick.	
540. <u>Chipping Hammer</u> **Section: 15** Used to remove the slag from a weld.	
91. <u>Combination Square</u> **Section: 3** A level and a scribe are contained in the beam. May be used to measure 45 and 90 degree angles.	

84. <u>Cut Off Saw</u> **Section: 3** Cutting wheels are disposable. Used for cutting steel bar and pipe.	
533. <u>Electrode Holder</u> **Section: 15** Connects to the welding cable and holds the electrode for SMAW process welding.	
81. <u>Face Shield</u> **Section: 3** Eye protection that covers the entire face. Often used with safety glasses when full protection of the face is required. Used when grinding or cutting metals.	
93. <u>Framing Square</u> **Section: 3** Are marked in 12ths of an inch on the back side. Also called a Carpenter's or Steel Square. Many of these squares are inscribed with rafter tables.	
531. <u>Gas Regulator</u> **Section: 15** Used with GMAW and GTAW to control the flow of shielding gas while welding.	
529. <u>GMAW Wire Feed</u> **Section: 15** Used with a constant voltage power supply and a gas source (e.g. carbon dioxide or argon) for GMAW process.	
532. <u>Ground Clamp</u> **Section: 15** Used to connect one of the cable leads from the welding machine to the welding table or the material being welded to make a complete circuit.	
530. <u>GTAW Torch</u> **Section: 15** Hold a non-consumable electrode and directs shielding gas to the weld.	

535. <u>Hard Facing Electrode</u> **Section: 15** Hard facing rod is not classified by a numbering system. Each manufacturer has their own nomenclature for their particular rod.	
300. <u>Hydraulic Shear</u> **Section: 9** Powered by a hydraulic pump and cylinder, these shears commonly can cut flat stock, angle iron, and punch holes.	
541. <u>Leather Gloves</u> **Section: 16** Gauntlet style gloves are recommended for arc welding to protect hands and arms from spatter, UV rays, and hot metal.	
10. <u>Locking Pliers</u> **Section: 1** Used as a gripping tool, pipe or locking wrench, adjustable wrench, or vise. Locks with a toggle action that holds until the lever is opened. Commonly called Vise-Grip Pliers.	
54. <u>Locking Welding Clamp</u> **Section: 2** Works well when clamping two pieces adjacent to each other or at a 90 degree angle.	
59. <u>Machinist's Vise</u> **Section: 2** A bench mounted vise for metal with a swivel base and replaceable jaws. It should not be used for hammering or bending metal. Also known as a Bench Vise.	
79. <u>Safety Glasses</u> **Section: 3** Safety glasses have side shields and cover the eyes. The California State Educational Code states that all students, teachers, and visitors in a school shop must wear eye protection.	
80. <u>Safety Goggles</u> **Section: 3** Eye protection that covers eye glasses.	

95. <u>Sliding "T" Bevel</u> **Section: 3** After it is set at the correct angle, it is much the same as a square.	
4. <u>Slip Joint Combination Pliers</u> **Section: 1** Useful for a variety of small and/or large jobs. Used to hold flat or round items, to cut and/or twist soft wires.	
534. <u>SMAW Electrode</u> **Section: 15** Electrode used in the SMAW process. For additional information about SMAW elctrodes, see Appendix A.	
109. <u>Soapstone</u> **Section: 4** Unlike chalk, it is hard enough not to mark hands or clothing and can be used in holders that resemble pencils.	
537. <u>Solid Welding Wire Electrode</u> **Section: 15** Solid wire is classified in a similar manner as regular SMAW electrode. ER means it is an electrode or rod, 70 is tensile strength, S means it is solid wire, and 4 is the type of shielding gas needed. See Appendix B.	
527. <u>Spot Welder</u> **Section: 15** Used to weld a small spot in sheet metal.	
89. <u>Steel Tape</u> **Section: 3** It should be cleaned after each use and kept free from dirt and rust.	
92. <u>Try Square</u> **Section: 3** It is marked in 8ths and 16ths of an inch. Marks 90 degree angles.	

538. <u>Tubular Wire Electrode</u> **Section: 15** The "T" means that the wire is "tubular" flux cored, and the last number is the position and usability capabilities. As no gas is required for tubular flux cored rod. Also called inner-shield wire since the shielding flux is "inside" the wire.	
536. <u>Tungsten Electrode</u> **Section: 15** Non-consumable electrode used for GTAW process welding.	
539. <u>Welding Helmet</u> **Section: 15** Must be worn to protect the eyes and face from the harmful UV rays, from spatter or flying particles of hot metal. Lenses used are numbered between 8 and 12 (the larger the number the darker the lense, the most common lens shade number is 10).	
64. <u>Wire Brush</u> **Section: 2** Used to clean machinery parts. Also used to clean and remove rust or slag from metal parts for welding.	